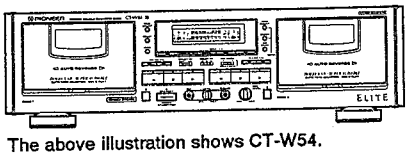
PIONEER®
The Art of Entertainment

Service Manual



The above illustration shows CT-W54.

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The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

STEREO DOUBLE CASSETTE DECK

CT-W54
CT-W803RS

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	CT-W54	CT-W803RS		
KU/CA	○	–	AC120V	————
HB	–	○	AC230 – 240V	AC220 – 230V, *
HEM	–	○	AC220 – 230V	AC230 – 240V, *
SD	–	○	AC110V/120 – 127V/220V/240V	With the voltage selector

*: Alter the wiring of the Power-supply block at the primary winding of power transformer referring to the "Line Voltage Selection" described in Service Manual.

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CHAPTER 1

1.1 SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -▮▭▭- (fast operating fuse) and/or -▮▭⊠- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -▮▭▭- (fusible de type rapide) et/ou -▮▭⊠- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

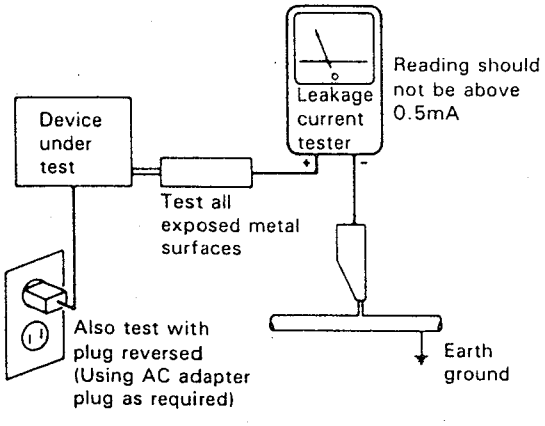
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

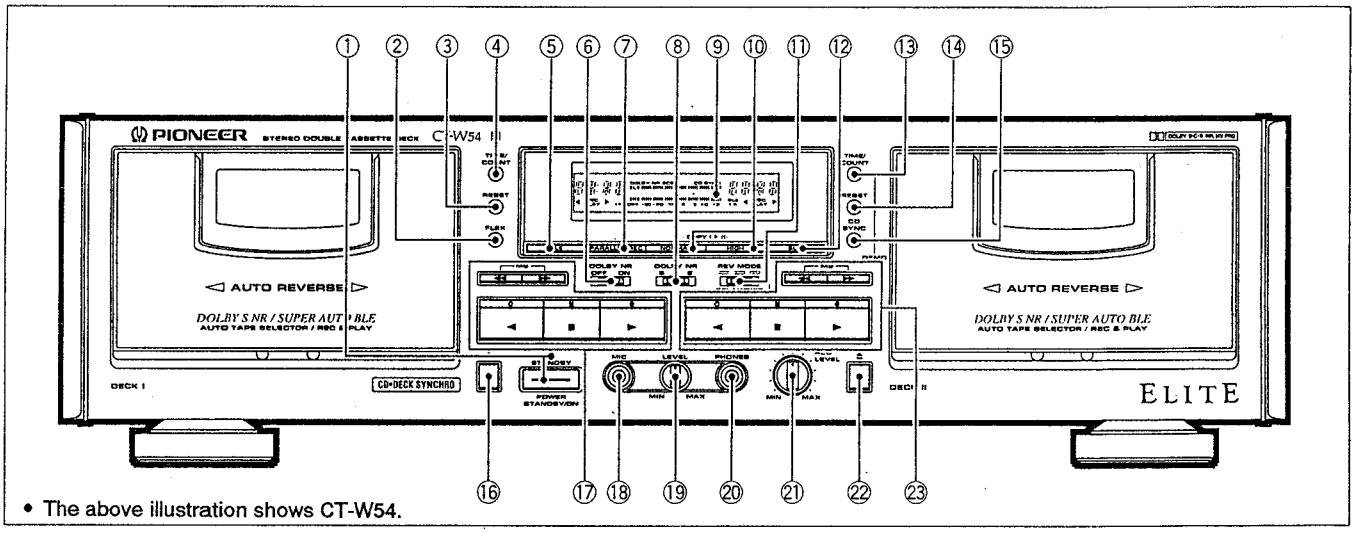
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

1.2 PANEL FACILITIES



• The above illustration shows CT-W54.

① POWER STANDBY/ON switch/indicator
The POWER switch activates the secondary transformer only. Even when the switch is in the STANDBY position, there will be a power flow to the deck's circuits as long as the power cord is connected to a power outlet.

② FLEX button

③ DECK I counter reset button (RESET)

④ DECK I counter mode botton (TIME/COUNT)

⑤ DECK I AUTO BLE button

⑥ DOLBY NR ON/OFF switch

⑦ Parallel recording button (PARALLEL REC)

⑧ DOLBY* NR switch (B/C/S)

*

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol ◻◻ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑨ Function display

⑩ Synchro copy buttons (COPY I▶II)
NORMAL : Normal speed copy
HIGH : Double speed copy

⑪ Reverse mode switch (REV MODE)

⑫ DECK II AUTO BLE button

⑬ DECK II counter mode button (TIME/COUNT)

⑭ DECK II counter reset button (RESET)

⑮ CD•DECK SYNCHRO recording button (CD SYNC)

⑯ DECK I eject button (⏏)
- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:
If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (⏏) button.

⑰ DECK I operation buttons
◀ : Reverse playback
▶ : Forward playback
◀◀/MS : Fast reverse/music search
■ : Stop
▶▶/MS : Fast forward/music search
O : Recording mute
II : Pause
● : Recording

⑱ Microphone jack (MIC)

⑲ MIC LEVEL control

⑳ Headphones jack (PHONES)

㉑ Recording level control (REC LEVEL)

㉒ DECK II eject button (⏏)
- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:
If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (⏏) button.

㉓ DECK II operation buttons
◀ : Reverse playback
▶ : Forward playback
◀◀/MS : Fast reverse/music search
■ : Stop
▶▶/MS : Fast forward/music search
O : Recording mute
II : Pause
● : Recording

1.3 SPECIFICATIONS

System ..... 4 track, 2-channel stereo
Heads ..... "Hard Permalloy" recording/playback head × 2
"Ferrite" erasing head × 2
Motor ..... DC servo motor × 2
Wow and Flutter ..... No more than 0.08% (WRMS)
Fast Winding Time ..... Approximately 100 seconds (C-60 tape)

Frequency Response
—20 dB recording:
TYPE IV (Metal) tape ..... 20 to 20,000 Hz
TYPE II (HIGH/CrO_2) tape ..... 20 to 19,000 Hz
TYPE I (Normal) tape ..... 20 to 18,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ..... More than 57 dB
Noise Reduction Effect
Dolby B-type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C-type NR ON ..... More than 19 dB (at 5 kHz)
Dolby S-type NR ON ..... More than 22 dB (at 5 kHz)
Harmonic Distortion ..... No more than 0.8% (at —4 dB: 160 nwb/m)
Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 68 kΩ)
MIC ..... 0.63 mV
Output (Reference level)
LINE (OUTPUT) ..... 0.5 V (Output impedance 1.9 kΩ)
Headphone ..... 0.63 mW (Load impedance 8 Ω)

Subfunctions

- Super AUTO BLE tuning system
- Automatic reverse
- Double recording/playback
- DOLBY HX PRO recording function
- DOLBY B/C/S type NR
- Relay recording
- Parallel recording
- Music search over ±15 selections
- Synchronized copy start
- High-speed and normal-speed copy (DECK I → DECK II)
- Relay playback/blank skip
- CD•DECK SYNCHRO recording capability
- Peak level meter with peak-hold function
- MPX FILTER (Interlocks with Dolby NR switch)
- Automatic space recording mute
- Automatic tape selector
- SR System remote control available
- Microphone jack
- 2-mode electronic 4-digit twin tape counter
- Headphone jack
- FLEX system

Miscellaneous

Power Requirements ..... AC 120 Volts, 60 Hz
Power Consumption ..... 24 W
Dimensions ..... 440 (W) × 125 (H) × 250 (D) mm
17-5/16(W) × 4-7/8 (H) × 9-13/16 (D) in
Weight (without package) ..... 4.3 kg (9 lb 7 oz)

Accessories

Operating instructions 1
Connection cord with pin plugs 2
SR Remote control cord 1
CD•DECK SYNCHRO control cord 1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

1.4 TEST MODE

Entering the Test Mode

To enter the test mode, set both DECK I and DECK II into the STOP mode and press the TIME/COUNT key of DECK I, RESET key of DECK I and PAUSE key of DECK II all together.
To change the MODE NO., press the STOP key so that the MODE NO. becomes 0 and enter other modes.

Exiting the Test Mode

To exit the test mode, press the RESET key of DECK I or turn off the power.

MODE NO.	DECK I Display	DECK II Display	Key Input	Adjustment and Check
0	–	0	STOP FWD REV FF REW REC PAUSE MUTE X1COPY X2COPY	● The mechanism will operate even in the "no-half" state only for this mode. ● Tape speed adjustment mode • During play (except during the assist), the speed can be doubled by pressing the FAST key (FF or REW key of DECK I or II). During double speed play, the play can be returned to normal speed by pressing the FWD or REV key. ● Auto-stop check • The RELAY mode will be turned on forcibly. But the REC is not relayed from DECK II to DECK I. • Auto stop is carried out at tape end for one second only in this mode. (Usually four seconds.) • Reverse is carried out as normally, but if the reverse is carried out in double speed, the tape will be played at constant speed.

CD SYNCHRO, SW check Modes

MODE NO.	Deck I Display	Deck II Display	Key Input	LINE MUTE	REC MUTE	BIAS	Adjustment and Check
1	–	1	CD SYNC	ON	ON	OFF	● CD SYNCHRO Check If a cord whose input/output is short-circuited is connected, "CD SYNC" will light up when a key is input.
1	–	1	1-CTR MODE	ON	ON	OFF	● SW Check (NORMAL) • When there is no-half, the corresponding counter will display "HALF". • Mistaken Erasure Detection Check When FWD recording is possible : "▶" lights up When REV recording is possible : "◀" lights up • Timer SW Check TIMER REC : Lch – ∞ TIMER PLAY : Rch – ∞ • Reverse SW Check ⇄ : "I" ↻ (REPEAT) : "II" • Tape Detection Check Deck II Check NORMAL : Lch +3dB lights up Rch +3dB lights up CR02 : Lch +3dB goes off Rch +3dB lights up METAL : Lch +3dB goes off Rch +3dB goes off DECK I Check NORMAL : Lch –20dB lights up Rch –20dB lights up CR02 : Lch –20dB goes off Rch –20dB lights up METAL : Lch –20dB goes off Rch –20dB goes off

BLE Adjustment Mode

● Entering the BLE Adjustment Mode

Set the MODE NO. to 0 and press the BLE keys of DECK I and DECK II. Both decks will set into the BLE adjustment mode in order.

● Exiting the BLE Adjustment Mode

To exit the BLE adjustment mode, press the STOP key or turn off the power.

MODE NO.	Deck I Display	Deck II Display	Key Input	LINE MUTE	REC MUTE	BIAS	Adjustment and Check
2	–	2 00	2-BLE	ON	ON	OFF	———
	400	2 01	2-BLE	OFF	OFF	OFF	• For AUTO BLE 400Hz OSC output level adjustment mode □□□■□□ ■■■□■■ Adjust so that the meter becomes as shown in the above diagram.
	10K	2 02	2-BLE	OFF	OFF	OFF	• For AUTO BLE 10kHz OSC output level adjustment mode □□□■□□ ■■■□■■ Adjust so that the meter becomes as shown in the above diagram.
	3K	2 03	2-BLE	ON	ON	OFF	• For AUTO BLE 3kHz OSC output level adjustment mode
	BIAS	2 04	2-BLE	ON	ON	ON	DECK II BIAS SWEEP mode
	LEVL	2 05	2-BLE	OFF	OFF	OFF	DECK II LEVEL SWEEP mode
	EQ	2 06	2-BLE	OFF	OFF	OFF	DECK II EQ SWEEP mode
	400	2 10	1-BLE	OFF	OFF	OFF	• For AUTO BLE 400Hz OSC output level adjustment mode For adjustment the same as DECK II
	10K	2 20	1-BLE	OFF	OFF	OFF	• For AUTO BLE 10kHz OSC output level adjustment mode For adjustment the same as DECK II
	3K	2 30	1-BLE	ON	ON	OFF	• For AUTO BLE 3kHz OSC output level adjustment mode For adjustment the same as DECK II
	BIAS	2 40	1-BLE	ON	ON	ON	DECK I BIAS SWEEP mode
	LEVL	2 50	1-BLE	OFF	OFF	OFF	DECK I LEVEL SWEEP mode
	EQ	2 60	1-BLE	OFF	OFF	OFF	DECK I EQ SWEEP mode

1.5 ADJUSTMENTS

1. MECHANICAL ADJUSTMENT

1.1 Door Damping Check and Adjustment

Set the door spring of the DECK I side to position (A) as shown in Fig. 1. Then, erect the front panel assembly vertically.

Open the doors of DECK I and DECK II at the same time. At this point, confirm that the difference between the door completely opened and the other door is within 15mm. If this standard is not satisfied install the door spring of DECK I at another position and adjust as follows:

- When the door of DECK I opens later than that of DECK II : Change the door spring of DECK II from A to B.
- When the door of DECK I opens faster than that of DECK II : Change the door spring of DECK I from A to B.

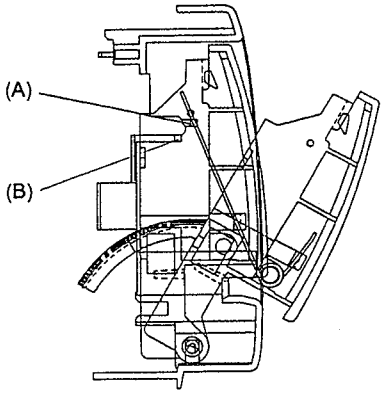


Fig. 1

1.2 Tape Speed

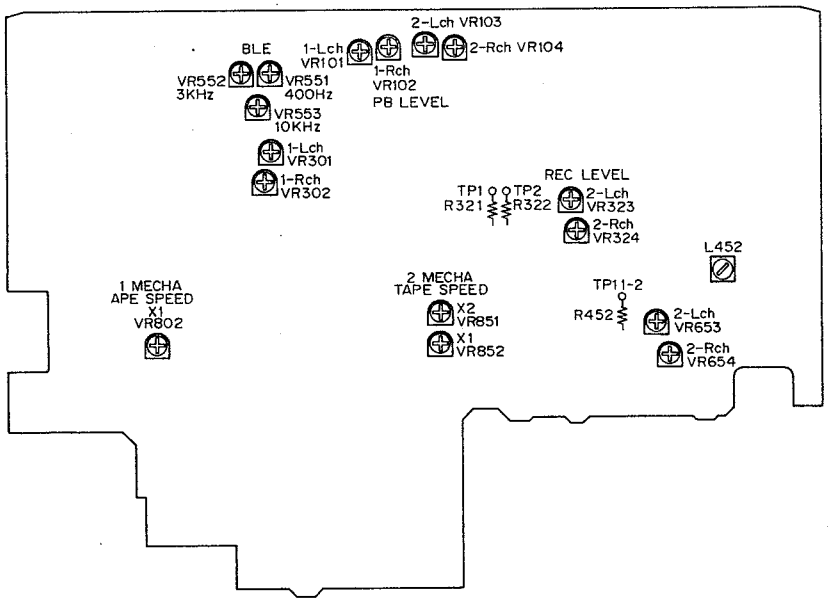
- Perform this adjustment in the test mode.
- TEST mode setting.

1. Press the TIME/COUNT and RESET keys of DECK I together with the PAUSE key of DECK II.
2. The speed becomes normal when the PLAY key is pressed, and double when the FF key is pressed.
3. To cancel the TEST mode, press the RESET key of DECK I.

1. Tape Speed Adjustment and Check

No.	Deck	Mode	Test tape	Adjusting points	Specifications/Ratings (playback frequency)	Remarks
1	I	Double speed PLAY	STD-301 (3 kHz)	check	6000 Hz ± 600 Hz	
2	II			VR851	Within ± 10 Hz against the measurement value of the step 1 (deck I)	
3	I	NORMAL speed PLAY		VR802	2980 Hz ± 5 Hz	
4	II			VR852	Within ± 5 Hz against the measurement value of the step 3 (deck I)	

MAIN BOARD



REC UNIT

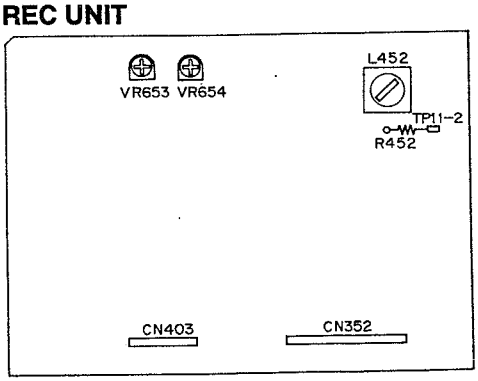


Fig. 2 Adjusting points

2. ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBV=1 Vrms.
5. Connect a 10 kΩ load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

Test Tapes

STD–331E	: Playback adjustments (See Fig. 3)
STD–631 or STD–632	: NORMAL blank tape
STD–621	: CrO2 blank tape
STD–610	: METAL blank tape

* As the reference recording level is 250 nwb/m for STD–331E, the recording level will be higher by 4 dB for STD–331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter check.
5. AUTO BLE adjustment.

NOTE: This unit has an automatic tape selection feature.

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"DOLBY",the double-D symbol ◻◻ and "HX PRO"are trademarks of Dolby Laboratories Licensing Corporation.

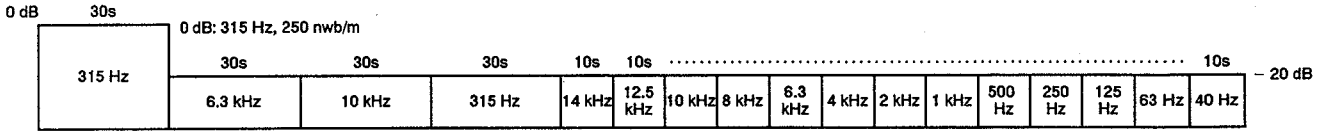


Fig. 3 Constants of the test tape STD–331E

DECK I and II

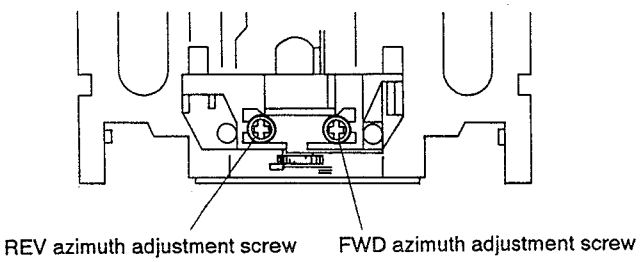
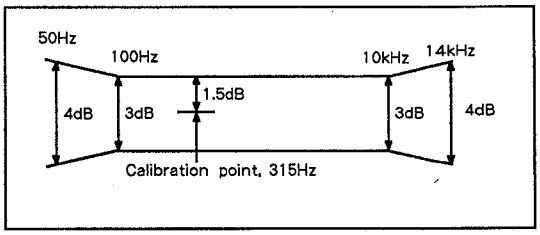


Fig. 4 Head azimuth adjustment

PLAY BACK



RECORDING

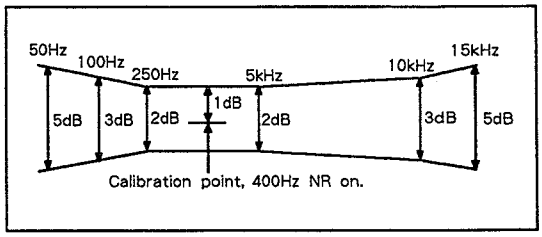


Fig. 5 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR101, 102 (Deck I) or VR103, 104 (Deck II) to mechanical center positions.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/–20 dB section of STD–331E test tape.	Head azimuth adjustment screw. (See Fig. 4)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD–331E test tape.	Deck II	VR 103 (Lch) VR 104 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	–7.2 dBV	
			Deck I	VR 101 (Lch) VR 102 (Rch)			

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Load the STD–610 test tape with no input signal.	Deck I	L 452 (REC UNIT)	TP. 11 – 2	105 kHz ± 0.3kHz	If the values on the left cannot be attained by adjusting, the value should be below 105 $\pm^{4}_{0.3}$ kHz.
			Deck II	L 452 (MAIN UNIT)			

2. Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Record the 315 Hz and 6.3 kHz signals at –26 dBV input level and playback. (STD-631 or STD-632)	Deck I	VR653(Lch) VR654(Rch) (REC unit)	LINE OUT	Repeatedly record, playback and adjust so that the playback level of 6.3 kHz signal becomes 0 dB ± 0.5 dB when compared with the 315 Hz signal.	
			Deck II	VR653(Lch) VR654(Rch) (MAIN unit)			

3. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC PAUSE	Apply a 315 Hz/0 dBV signal to the line input terminals, load the STD–631 or STD–632 test tape.	REC level control volume		TP. 1 (Lch) TP. 2 (Rch)	–11.2 dBV	
2.	REC/ PLAY	Record the above signal onto the STD–631 or STD–632 test tape, and playback.	Deck I	VR301 (Lch) VR302 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes – 11.2 dBV.	
			Deck II	VR323 (Lch) VR324 (Rch)			
3.	REC/ PLAY	Record the above signal onto the STD–621 test tape, and playback.	Check		TP. 1 (Lch) TP. 2 (Rch)	–11.2 dBV ± 1.5dB	
4.	REC/ PLAY	Record the above signal onto the STD–610 test tape, and playback.	Check		TP. 1 (Lch) TP. 2 (Rch)	–11.2 dBV ± 1.5dB	

4. Level Meter Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE	Apply a 315 Hz/–6 dBV (500 mV) signal to the Line Input terminals.	REC level control volume	TP. 1 (Lch) TP. 2 (Rch)	Check that the level meters "0 dB" light up within –7.2 dBV ± 2 dB of the signal output level.	

5. AUTO BLE Adjustment (Deck II only)

- BLE adjustment should be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the test mode.
  For details of how to enter the test mode, refer to the "Mechanical Adjustment" section (Page 1-5)

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	–	Set to test mode.	–	–	–	
2.		Press the BLE key on the front panel.	Level meter (R channel)	VR551	Adjust so that – 3 dB on the level meter turn on.	400 Hz adjustment
3.		Press the BLE key on the front panel.		VR553		10 kHz adjustment
4.		Press the BLE key on the front panel.		VR552		3 kHz adjustment

Reference: The output of LINE OUT after completing the adjustments for 400 Hz, 10 kHz, 3 kHz becomes – 23 dBV ± 1dB.

1.6 PARTS LIST FOR EXPLODED VIEWS AND PACKING

NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1. EXTERIOR AND PACKING

■ CONTRAST OF CT-W54/KU/CA, CT-W803RS/HEM, HB and SD

CT-W54/KU/CA, CT-W803RS/HEM, HB and SD have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.				Remarks
			CT-W54/KU/CA	CT-W803RS/HEM	CT-W803RS/HB	CT-W803RS/SD	
	1	Main Unit	RWZ3167	RWZ3147	RWZ3147	RWZ3152	
	2	Sub Unit	RWZ3168	RWZ3148	RWZ3148	RWZ3153	
NSP	4	Transformer 2 Unit	RWZ3170	RWZ3150	RWZ3150	RWZ3155	
NSP	64	Transformer 1 Unit	Not Used	Not Used	Not Used	RWZ3154	
NSP	64	Transformer 1 PCB	RNZ2679	RNZ2655	RNZ2655	RNZ2683	
⚠	5	Strain Relief	CM – 22C	CM – 22B	CM – 22B	CM – 22B	
⚠	6	Fuse (1.5A) FU1001, FU1002	REK1059	Not Used	Not Used	Not Used	
⚠	6	Fuse (T1.6A) FU1001, FU1002	Not Used	REK1024	REK1024	REK1024	
⚠	7	AC Power Cord	PDG1015	PDG1003	PDG1055	PDG1013	
	8	Lead Card 31P	RDD1299	Not Used	Not Used	RDD1299	
	8	Lead Card 33P	Not Used	RDD1300	RDD1300	Not Used	
⚠	9	Power Transformer (AC120V)	RTT1223	Not Used	Not Used	Not Used	
⚠	9	Power Transformer (AC220 – 230/230 – 240V)	Not Used	RTT1218	RTT1218	Not Used	
⚠	9	Power Transformer (AC110/120 – 127/220/240V)	Not Used	Not Used	Not Used	RTT1272	
	31	FL Lens	RAH2371	RAH2372	RAH2372	RAH2371	
	32	Front Panel	RAH2354	RAH2355	RAH2355	RAH2356	
	36	Name Plate	RAN1008	RAM1007	RAM1007	RAM1007	
	38	Rear Panel	RNA1768	RNA1769	RNA1770	RNA1771	
	39	Connection Cord with Mini Plug	PDE – 319	Not Used	Not Used	PDE – 319	For Packing
	42	Operating Instructions (English/French)	RRE1089	Not Used	Not Used	Not Used	For Packing
	42	Operating Instructions (English/French/German/Italian/Dutch/Spanish/Portuguese/Swedish)	Not Used	RRE1090	Not Used	Not Used	For Packing
	42	Operating Instructions (English)	Not Used	Not Used	RRB1143	Not Used	For Packing
	42	Operating Instructions (English/Spanish/Chinese)	Not Used	Not Used	Not Used	RRE1091	For Packing
	43	Pad	RHA1142	RHA1115	RHA1115	RHA1115	For Packing
	44	Pad R	RHA1143	RHA1116	RHA1116	RHA1116	For Packing
	45	Packing Case	RHG1517	RHG1518	RHG1519	RHG1520	For Packing
	51	65 Label	ORW1069	Not Used	Not Used	Not Used	
	55	Bonnet	REA1135	REA1077	REA1077	REA1077	
NSP	63	Fuse Caution Label	RRW – 111	Not Used	Not Used	Not Used	
NSP	66	Side Spacer	PEB1247	Not Used	Not Used	Not Used	
	67	Screw	ABA1148	Not Used	Not Used	Not Used	
	74	Side Sheet	RED1037	Not Used	Not Used	Not Used	
	75	Panel Stabilizer L	PNW2281	Not Used	Not Used	Not Used	
	76	Panel Stabilizer R	PNW2306	Not Used	Not Used	Not Used	
⚠	77	Line Voltage Selector (AC110/120 – 127/220/240V)	Not Used	Not Used	Not Used	PSB1002	
⚠	78	Fuse (T5A)	Not Used	Not Used	PEK1003	Not Used	
	79	Pin Cap	Not Used	Not Used	VEC1616	Not Used	
	80	Spacer A	Not Used	Not Used	RHC1032	Not Used	For Packing
	81	Spacer B	Not Used	Not Used	RHC1033	Not Used	For Packing
	82	Remot Control unit	Not Used	RPX1074	RPX1074	Not Used	For Packing
	83	Battery Cover (For Remote Control unit)	Not Used	PZN1010	PZN1010	Not Used	For Packing
NSP	84	Dry Cell Battery (R03/AAA)	Not Used	VEM – 022	VEM – 022	Not Used	For Packing
	85	Caution Card	Not Used	Not Used	RRN1001	Not Used	For Packing
	86	Vinyl Bag	Not Used	RHL1001	RHL1001	Not Used	For Packing

■ PARTS LIST FOR CT-W54/KU/CA

Mark	No.	Description	Part No.
	1	Main Unit	RWZ3167
	2	Sub Unit	RWZ3168
	3	Dolby S Unit	RWX1101
NSP	4	Transformer 2 Unit	RWZ3170
⚠	5	Strain Relief	CM – 22C
⚠	6	Fuse (1.5A) FU1001, FU1002	REK1059
⚠	7	AC Power Cord	PDG1015
	8	Lead Card 31P	RDD1299
⚠	9	Power Transformer	RTT1223
	10	1 Mechanism Unit	RYM1234
	11	2 Mechanism Unit	RYM1234
	12	Headphone Knob	VNK1262
	13	Insulator	PNW1912
	14	Eject Spring L	RBH1379
	15	Door Spring L	RBH1304
	16	Door Spring R	RBH1305
	17	Half Pressure Spring	RBK1004
	18	Eject Spring R	RBH1380
	19	Damper Assy	REC1005
	20	.....	
	21	Eject Arm L	RNE1763
	22	Eject Arm R	RNE1764
	23	Eject Lever L	RNK2045
	24	Cord Clamper	RNH – 184
	25	Balance Knob	RAC1705
	26	Eject Konb L	RAC1881
	27	Eject Konb R	RAC1882
	28	Power Knob	RAC1883
	29	Control Knob	RAC1875
	30	REC Knob A	RAC1777
	31	FL Lens	RAH2371
	32	Front Panel	RAH2354
	33	Door Pocket L	RAH2367
	34	Door Pocket R	RAH2369
	35	Door Lens	RAH2435
	36	Name Plate	RAN1008
	37	Remain Display Paper	REE – 113
	38	Rear Panel	RNA1768
	39	Connection Cord with Mini Plug	PDE – 319
	40	Connection Cord Assy	RDE1036
	41	Control Cord	RDE1030
	42	Operating Instructions (English/French)	RRE1089
	43	Pad	RHA1142
	44	Pad R	RHA1143
	45	Packing Case	RHG1517
	46	Sheet	RHX – 034
	47	LED Lens	PNW2019
	48	Screw	BBZ30P060FMC
	49	Screw	BBZ30P080FZK
	50	Screw	IPZ30P150FCU
	51	65 Label	ORW1069
	52	Screw	BCZ26P050FMC
	53	Slide Knob	REA1078
	54	Screw	BSZ26P120FMC
	55	Bonnet	REA1135
NSP	56	FL Spacer	REB1171
NSP	57	Spacer	REB1267
	58	.....	
	59	.....	
NSP	60	Eject Collar	RLA1283
NSP	61	Arm Collar	RLA1290
NSP	62	Earth Lead Unit	XDF – 504
NSP	63	Fuse Caution Label	RRW – 111
NSP	64	Transformer 1 PCB	RNZ2679
	65	REC Unit	RWX1099
	66	Side Spacer	PEB1247
	67	Screw	ABA1148
NSP	68	PCB Spacer	PNY – 404
NSP	69	Chassis	RNB1089
	70	Connector Assy 5P	RKP1676
	71	Connector Assy 5P	RKP1677
NSP	72	Binder	Z09 – 057
	73	Eject Lever R	RNK2046
	74	Side Sheet	RED1037
	75	Panel Stabilizer L	PNW2281
	76	Panel Stabilizer R	PNW2306

2. 1 AND 2 MECHANISM UNIT

Parts List

Mark	No.	Description	Part No.
	1	Plunger	RLA1288
	2	.....	
	3	Push Switch	RSG1018
	4	SPLF	RSN1023
	5	Photo – Transistor	SPI33534FG
	6	MTR Main BLK	RXM1075
	7	Solenoid BLK	RXP1021
	8	Spring Interlock R	RBH1386
	9	Arm Interlock R	RNE1781
	10	Chassis Base BLK	RXA1626
	11	Spring Brake	RBH1387
	12	Main Belt	REB1157
	13	F/R Belt	REB1254
	14	Lever Brake	RNK2071
	15	F/W Assy	RXA1428
	16	Pinch Roller BLK R	RXA1628
	17	Pinch Roller BLK L	RXA1629
	18	Clutch Assy	RXA1631
	19	Screw	RBA1113
	20	Washer 2.1 × 0.25T	RBF1038
	21	Spring Reel (L)	RBH1388
	22	Spring Reel (R)	RBH1389
	23	Cam Spring	RBH1393
	24	Spacer	RLA1286
	25	Lever F/R	RNE1782
	26	Reel Feather	RNK2072
	27	Reel Base	RNK2073
	28	Play Gear (A)	RNK2074
	29	FF Gear (A)	RNK2075
	30	F/R Pulley	RNK2076
	31	Clutch Assy BLK	RXA1632
	32	Washer	WA17D040D025
	33	Washer	WA23F060M040
	34	Screw	PCZ20P040FMC
	35	Screw	RBA1077
	36	Spring HB	RBH1390
	37	Head Base	RNE1783
	38	.....	
	39	HD PCB 5P	RXA1635
	40	Screw	RBA1113
	41	Washer 2.0 × 0.3	RBE1009
	42	Spring Arm Play	RBH1392
	43	Spacer	RLA1286
	44	Plate Slide	RNE1785
	45	Cam Gear	RNK2078
	46	Arm Play	RNK2079
	47	Spring Cassette	RNE1786
	48	Screw	BMZ26P040FZK
	49	Washer	WA26D045D025
	50	Washer	WA26D047D050
	51	Stop Ring	YE15FUC
	52	Spring Interlock L	RBH1385
	53	Arm Interlock L	RNE1780
	54	PCB Control	RXA1624
	55	Plate HD BLK	RXA1634

1.7 PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56×10^1 → 561 ····· RD1/8PM [5][6][1] J
47k Ω → 47×10^3 → 473 ····· RD1/4PS [4][7][3] J
0.5 Ω → 0R5 ····· RN2H [0][R][5] K
1 Ω → 010 ····· RS1P [0][1][0] K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562×10^1 → 5621 ····· RN1/4PC [5][6][2][1] F

LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.				Remarks
		CT-W54/ KU/CA	CT-W803RS/ HEM	CT-W803RS/ HB	CT-W803RS/ SD	
NSP	Mother Unit	RWM1683	RWM1679	RWM1679	RWM1680	
	├ Main Unit	RWZ3167	RWZ3147	RWZ3147	RWZ3152	
	│ └ Dolby S Unit	RWX1101	RWX1101	RWX1101	RWX1101	
	├ Sub Unit	RWZ3168	RWZ3148	RWZ3148	RWZ3153	
NSP	├ Transformer 2 Unit	RWZ3170	RWZ3150	RWZ3150	RWZ3155	
NSP	└ Transformer 1 Unit	Not Used	Not Used	Not Used	RWZ3154	
	REC Unit	RWX1099	RWX1099	RWX1099	RWX1099	

MAIN UNIT

RWZ3167, RWZ3147 and RWZ3152 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		RWZ3167	RWZ3147	RWZ3152	
	D1403 – D1405	1SS254	Not used	1SS254	
	C1011	RCH1116	RCH1120	RCH1120	
	C1402	CKCYF103Z50	Not used	CKCYF103Z50	
	CN1503	52045 – 3145	52045 – 3345	52045 – 3145	
	JA1401, JA1402	RKN1004	Not Used	RKN1004	

SUB UNIT

RWZ3168, RWZ3148 and RWZ3153 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		RWZ3168	RWZ3148	RWZ3153	
	CN1501	9604S – 31F	9604S – 33F	9604S – 31F	
	REMOTE SENSOR	Not Used	SBX1785 – 51	Not Used	

TRANSFORMER 2 UNIT

Althouh RWZ3170, RWZ3150 and RWZ3155 different in part number, they consist of the same componets.

TRANSFORMER 1 UNIT

Transformer 1 unit has no service part.

■ PARTS LIST FOR CT-W54/KU/CA

Mark	No.	Description	Part No.
REC UNIT			
SEMICONDUCTORS			
	IC351		CXA1198AP
	IC352		MC14051BCP
	IC651		UPC1297CA
	Q460		2SB1238X
	Q456, Q457		2SC1815
	Q351, Q352, Q454, Q455, Q459		2SC3311A
	Q353, Q354, Q458		2SD2144S
	Q652		XDA114ES
	Q653		XDC124ES
	D452		1SS252
COILS AND FILTERS			
	L451		LFA121K
	L651, L652		RTD1046
	L452		RTD1048
	L351, L352		RTF1102
CAPACITORS			
	C659, C660		CCCSL101K500
	C459, C667		CEAS100M50
	C351, C352		CEAS221M10
	C451, C458		CEAS330M16
	C361		CEAS470M16
	C353-C356		CEAS4R7M50
	C664		CEASR10M50
	C454		CFTYA223J50
	C358		CGCYF104Z25
	C357, C657, C658		CGCYF473Z50
	C651, C652		CGCYX103K25
	C655, C656		CGCYX223K25
	C455-C457		CGCYX332K25
	C663		CKPUYB101K50
	C359, C360		CKPUYB221K50
	C653, C654		CKPUYB821K50
	C453		CQPA682J100
	C661, C662 (430/500)		RCG1005
RESISTORS			
	R452		RD1/2LMF010J
	R461		RD1/2LMF680J
	VR653, VR654 (22K)		RCP1084
	Other Resistors		RD1/6PM□□□J
OTHERS			
	CN452 KR CONNECTOR		B2B-PH-K
	CN352 CONNECTOR 12P		S12B-XH
	CN403 CONNECTOR 7P		S7B-XH-A-1
DOLBY S UNIT			
SEMICONDUCTORS			
	IC1001, IC1002		CXA1417Q
CAPACITORS			
	C1003, C1004, C1015, C1016		CEJA010M50
	C1051, C1052		CEJA010M50
	C1089, C1090		CEJA100M25
	C1085, C1086		CEJA220M25
	C1029, C1030, C1035, C1036		CEJA470M16
	C1033, C1034		CEJAR10M50
	C1001, C1002, C1031, C1032		CEJAR22M50
	C1045, C1046, C1091, C1092		CEJAR22M50
	C1027, C1028, C1041, C1042		CEJAR47M50
	C1075, C1076		CEJAR47M50
	C1019, C1020		CFTYA224J50
	C1037, C1038		CFTYA334J50
	C1013, C1014, C1055, C1056		CKSQYB102K50
	C1007, C1008, C1025, C1026		CKSQYB104K25
	C1043, C1044, C1067, C1068		CKSQYB104K25
	C1077, C1078, C1081, C1082		CKSQYB104K25
	C1087, C1088		CKSQYB104K25
	C1023, C1024, C1049, C1050		CKSQYB153K50
	C1065, C1066, C1069 -C1072		CKSQYB182K50
	C1083, C1084		CKSQYB182K50
	C1079, C1080		CKSQYB183K50
	C1059, C1060		CKSQYB222K50
	C1009, C1010, C1073, C1074		CKSQYB223K50
	C1093, C1094		CKSQYB333K50
	C1005, C1006, C1061, C1062		CKSQYB393K50
	C1063, C1064		CKSQYB471K50
	C1047, C1048		CKSQYB473K50
	C1011, C1012		CKSQYB681K50
	C1017, C1018, C1053, C1054		CKSQYB822K50
	C1021, C1022, C1039, C1040		CKSQYB823K25
RESISTORS			
	All Resistors		RS1/10S□□□J
OTHERS			
	CN1002		6033B-07Z029
	CN1001		6033B-08Z029
MAIN UNIT			
SEMICONDUCTORS			
	IC101		CXA1115BP
	IC351		CXA1198AP
	IC201		CXA1563S
	IC502		LC7570
	IC1701		MC14050BCP
	IC352		MC14051BCP
⚠	IC1003, IC1004		NJM7812FA
⚠	IC1002		NJM78M06FA
⚠	IC1008		NJM79L06A
	IC231		PA0059AM
	IC501		PD4507A
	IC651		UPC1297CA
	IC903		XRA10393
	IC2001, IC554, IC701		XRA15218
	IC1601		XRA15218N
	Q1005, Q235, Q801, Q851		2SA1309A
	Q460, Q805, Q855		2SB1238X
	Q803, Q853		2SB1425
	Q456, Q457		2SC1815
	Q1006, Q1007, Q454, Q455, Q459		2SC3311A

Mark	No.	Description	Part No.
	Q807, Q857		2SC3311A
	Q353, Q354, Q458, Q701, Q702		2SD2144S
	Q741, Q742		2SD2144S
	Q553		2SK246
	Q151, Q152, Q161, Q162		2SK373
	Q1116, Q1401, Q333, Q762		DTA114TS
	Q109, Q1101-Q1112, Q1151-Q1162		DTC114TS
	Q1166, Q123, Q1402, Q153, Q154		DTC114TS
	Q157, Q158, Q163, Q164, Q167		DTC114TS
	Q234, Q253-Q256, Q331		DTC114TS
	Q551, Q552		DTC114TS
	Q125, Q126, Q351, Q352		DTC115TS
	Q1010, Q155, Q165, Q507, Q508		XDA114ES
	Q511, Q512, Q652		XDA114ES
	Q101, Q102, Q231, Q233		XDC124ES
	Q251, Q252, Q653, Q802, Q804		XDC124ES
	Q806, Q852, Q854, Q856		XDC124ES
	Q901, Q902		XDC124ES
	D801, D851		1ES2
⚠	D1001, D1006		1SR35-100AVL
	D452		1SS252
⚠	D1009-D1011, D1101, D1102		1SS254
⚠	D1151, D1152, D1400-D1406		1SS254
⚠	D151-D156, D161-D166		1SS254
⚠	D231-D233, D235, D501, D503		1SS254
⚠	D507, D508, D510-D512		1SS254
⚠	D520, D521, D742, D913		1SS254
	D502		MTZ9.1B
⚠	D1020		MTZJ3.3B
	D765		MTZJ3.9B
	D1021		MTZJ5.1B
⚠	D1012		S2VB20

COILS AND FILTERS

	L451		LFA121K
	L651, L652		RTD1046
	L452		RTD1048
	L101, L102		RTF1099
	L351, L352		RTF1102
	F251, F252		RTF1203

CAPACITORS

	C659, C660		CCCSL101K500
	C151, C152, C161, C162		CCSQCH100D50
	C359		CCSQCH221J50
	C135-C138, C2002, C2007, C663		CCSQSL101J50
	C701, C702, C711, C712		CCSQSL101J50
	C723, C724		CCSQSL101J50
	C111, C112		CEANL101M10
	C2004, C201, C2011, C2012, C202		CEAS010M50
	C263, C555, C703, C704		CEAS010M50
	C1016, C2005, C2006, C203, C204		CEAS100M50
	C209-C212, C215-C218, C459		CEAS100M50
	C667, C707, C708		CEAS100M50
	C1603, C1604, C200, C231, C240		CEAS101M16
	C244, C245		CEAS101M16
	C1018		CEAS220M50
	C351, C352		CEAS221M10
	C1001		CEAS221M50
	C1004, C451, C458, C521		CEAS330M35
	C1013, C1015, C1605		CEAS331M16
	C1024, C1025, C141, C142, C2003		CEAS470M16
	C239, C361, C508, C705		CEAS470M16
	C117, C118, C213, C235-C238		CEAS4R7M50
	C241, C247, C248, C353-C356		CEAS4R7M50
	C664		CEASR10M50
	C1601, C1602		CEASR22M50
	C915		CEASR47M50
	C255, C256		CFTXA392J50
	C257, C258		CFTXA472J50
	C113, C114		CFTXA822J50
	C233, C234, C651, C652		CFTYA103J50
	C205, C206		CFTYA104J50
	C301, C302, C321, C322		CFTYA184J50
	C454, C655, C656		CFTYA223J50
	C207, C208		CFTYA683J50
	C1009		CGCYF104Z25
	C455-C457		CGCYX332K25
	C1400, C1402		CKCYF103Z50
	C1008, C1020, C1021, C1030, C1401		CKCYF473Z50
	C2020, C706		CKCYF473Z50
	C105, C106, C801, C851		CKSQYB102K50
	C554		CKSQYB103K50
	C503		CKSQYB104K25
	C504		CKSQYB123K50
	C121, C122, C360		CKSQYB221K50
	C249, C250		CKSQYB222K50
	C505, C552		CKSQYB223K50
	C123, C124, C362, C363		CKSQYB391K50
	C103, C104		CKSQYB471K50
	C553		CKSQYB472K50
	C101, C102		CKSQYB561K50
	C133, C134, C2001		CKSQYB681K50
	C653, C654		CKSQYB821K50
	C551		CKSQYB823K25
	C501, C502, C506, C507		CKSQYF103Z50
	C358		CKSQYF104Z50
	C1022, C119, C126, C139, C153		CKSQYF473Z50
	C1701, C251, C357, C657, C658		CKSQYF473Z50
	C769, C919		CKSQYF473Z50
	C453		CQPA682J100
	C1007 (4700/16)		PCH1116
	C1010 (1000/10)		PCH1117
	C661, C662 (430/500)		RCG1005
	C1011 (4700/25)		RCH1116

RESISTORS

	R502		RA4T223J
	R501		RA4T683J
	R503		RA6T223J
	R504		RA6T683J
	R1702 (11K/22K)		RCX1020
	R452		RD1/2LMF010J
	R468		RD1/2LMF150J
	R461		RD1/2LMF680J
	R118, R469		RD1/6PM102J
	R551, R557-R559		RD1/6PM103J

Mark	No.	Description	Part No.
	R135, R2002, R552		RD1/6PM104J
	R236, R243		RD1/6PM122J
	R1024, R1025		RD1/6PM123J
	R803		RD1/6PM124J
	R809, R810, R859, R860		RD1/6PM152J
	R2017, R2018		RD1/6PM153J
	R2009, R2011		RD1/6PM181J
	R563, R564		RD1/6PM202J
	R136, R395, R460, R465, R717		RD1/6PM222J
	R806, R856		RD1/6PM222J
	R464, R471, R473, R926		RD1/6PM223J
	R1116		RD1/6PM224J
	R454, R455, R472, R474		RD1/6PM273J
	R477		RD1/6PM302J
	R1007		RD1/6PM362J
	R1605, R1606		RD1/6PM470J
	R156, R166, R718		RD1/6PM473J
	R2012		RD1/6PM682J
	R565		RD1/6PM683J
	R1602		RD1/6PM823J
⚠	R1020		RFA1/4L470J
	R1002		RS2LMF271J
	R1609		RS2LMF750J
	R1023		RS3LMF150J
	VR851 (2.2K)		RCP1019
	VR802, VR852 (1.0K)		RCP1044
	VR551-VR553, VR653, VR654 (22K)		RCP1046
	VR101-VR104, VR301, VR302 (47K)		RCP1047
	VR323, VR324 (47K)		RCP1047
	VR2002 (5KA)		RCV1089
	VR2003 (10KA)		RCV1090
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN1101 CONNECTOR 12P		12JQ-BT
	CN1503 CONNECTOR 30P		52045-3145
	CN1102 CONNECTOR 7P		7JQ-BT
	CN452 CONNECTOR POST		B2B-PH-K
	CN101, CN102 CONNECTOR POST		B3B-PH-K
	JA1403 MINI JACK		PKN1005
	JA701 PIN JACK 4P		RKB-020
	JA2003 HEADPHONE JACK		RKN1002
	JA2001 MIC JACK		RKN1003
	JA1401, JA1402 REMOTE CONTROL JACK		RKN1004
	MIC SHILED PLATE		RNE1588
	PCB BINDER		VEF1040
	EATRH PLATE		VNF-091
	X501 CERAMIC RESONATOR (4.19MHz)		VSS1014

SUB UNIT

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	Q1501		DTA114TS
	D1501-D1514		1SS254
	D527		SEL6210S
SWITCHES AND RELAYS			
	S1501-S1528		RSG1034
	S1529, S1530		RSH1041
	S1531		RSH1042
RESISTORS			
	All Resistors		RD1/6PM□□□J
OTHERS			
	CN1501 CONNECTOR		9604S-31F
	V1501 FL INDICATOR TUBE		RAW1132

TRANSFORMER 2 UNIT

Mark	No.	Description	Part No.
OTHERS			
	HOLDER		RKR1002

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STEREO DOUBLE CASSETTE DECK

CT-W54
CT-W803R

CHAPTER 2

CONTENTS

CHAPTER 2
2.1 EXPLODED VIES AND PACKING 2-3
2.2 BLOCK DIAGRAM 2-7
2.3 SCHEMATIC DIAGRAMS 2-8
2.4 PCB CONNECTION DIAGRAM 2-13

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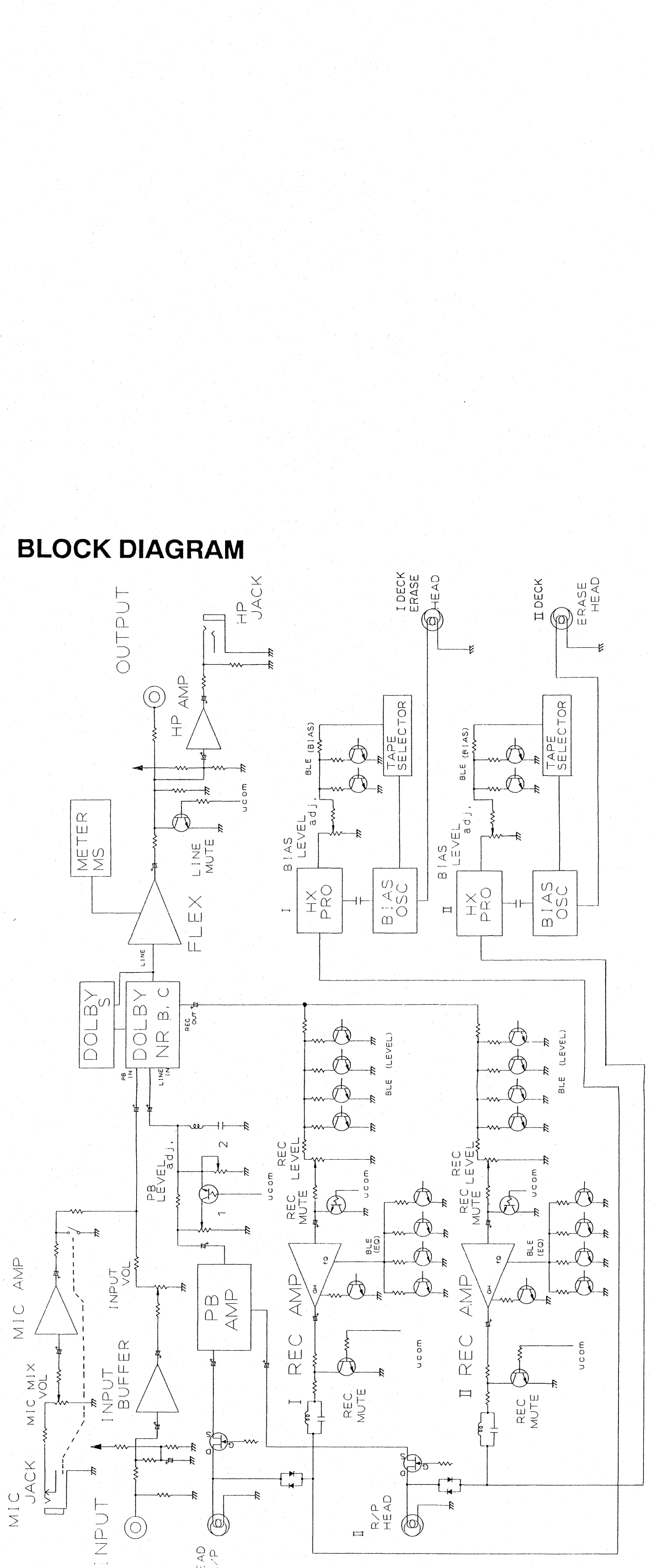
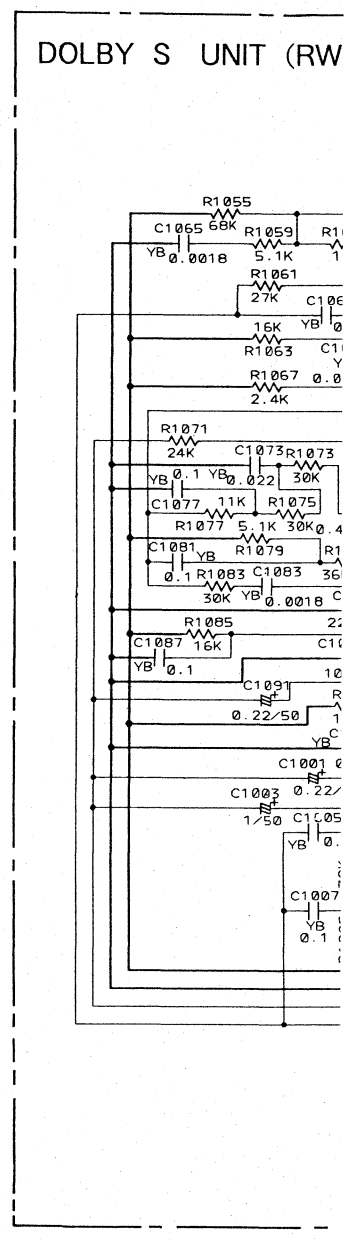
2.2 BLOCK DIAGRAM



2.3 SCHEMATIC DIAGRAMS

1. DOLBY S UNIT



SCH—1 DOLBY S UNIT

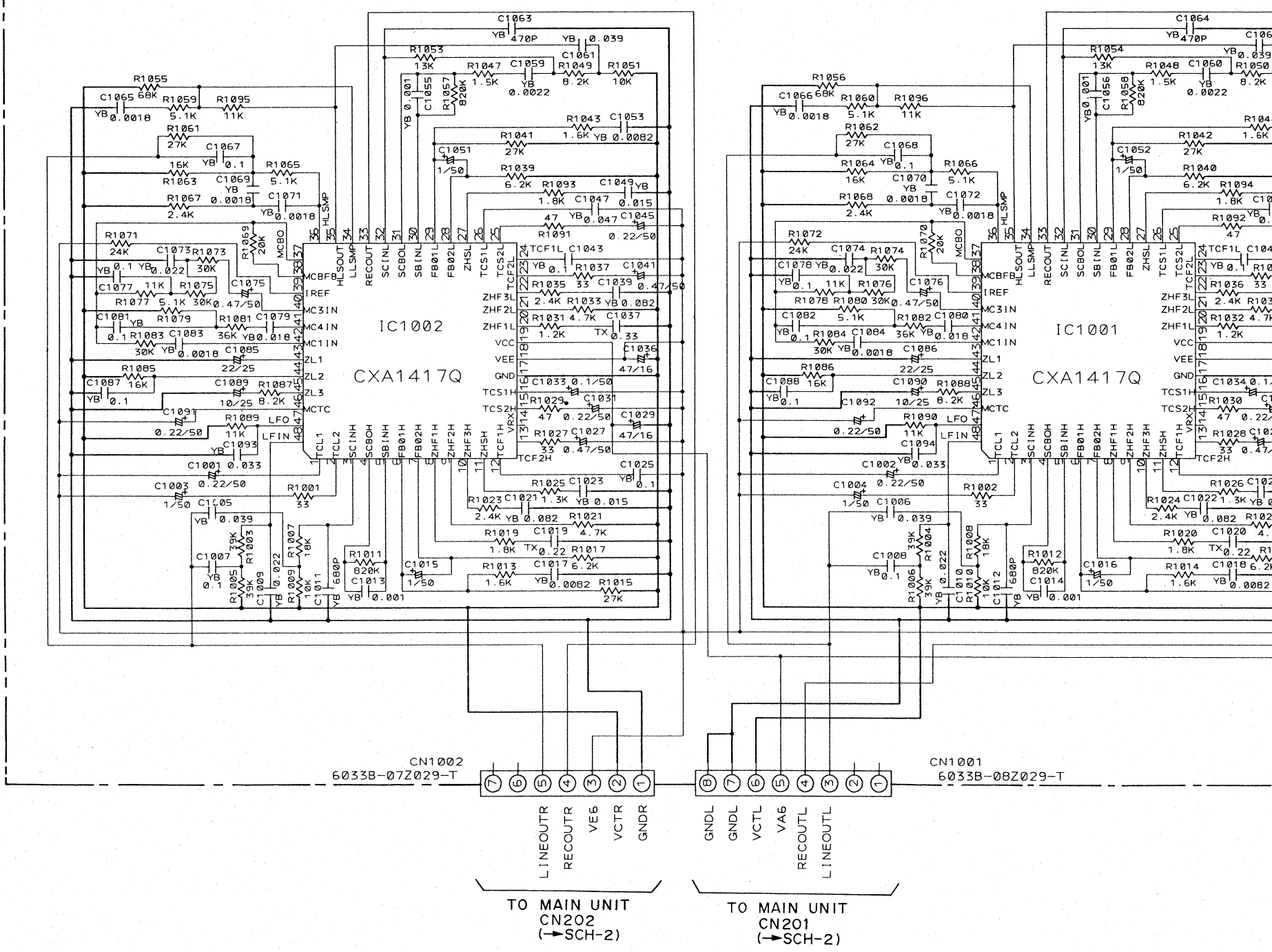
NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⊐ or ← V :
   DC voltage (V) in STOP mode unless otherwise noted.
   ⇦ mA or ← mA :
   DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ◉ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Un
   SUB UNIT
   S1501 : FAST F
   S1502 : FAST R
   S1503 : REVERS
   S1504 : FORWAI
   S1505 : RECORD
   S1506 : STOP ■
   S1507 : RECORD
   S1508 : PAUSE
   S1509 : FAST F
   S1510 : FAST R
   S1511 : REVERS
   S1512 : FORWAI
   S1513 : RECORD
   S1514 : STOP ■
   S1515 : RECORD
   S1516 : PAUSE
   S1517 : PARALL
   S1518 : SYNCHF
   S1519 : SYNCHF
   S1520 : FLEX
   S1521 : DECK II
   S1522 : DECK I
   S1523 : DECK I
   S1524 : DECK II
   S1525 : CD • DE
   S1526 : DECK I
   S1527 : DECK II
   S1528 : POWER
   S1529 : DOLBY
   S1530 : REVERS
   S1531 : DOLBY

2.3 SCHEMATIC DIAGRAMS

1. DOLBY S UNIT

DOLBY S UNIT (RWX1101)



SCH—1 DOLBY S UNIT

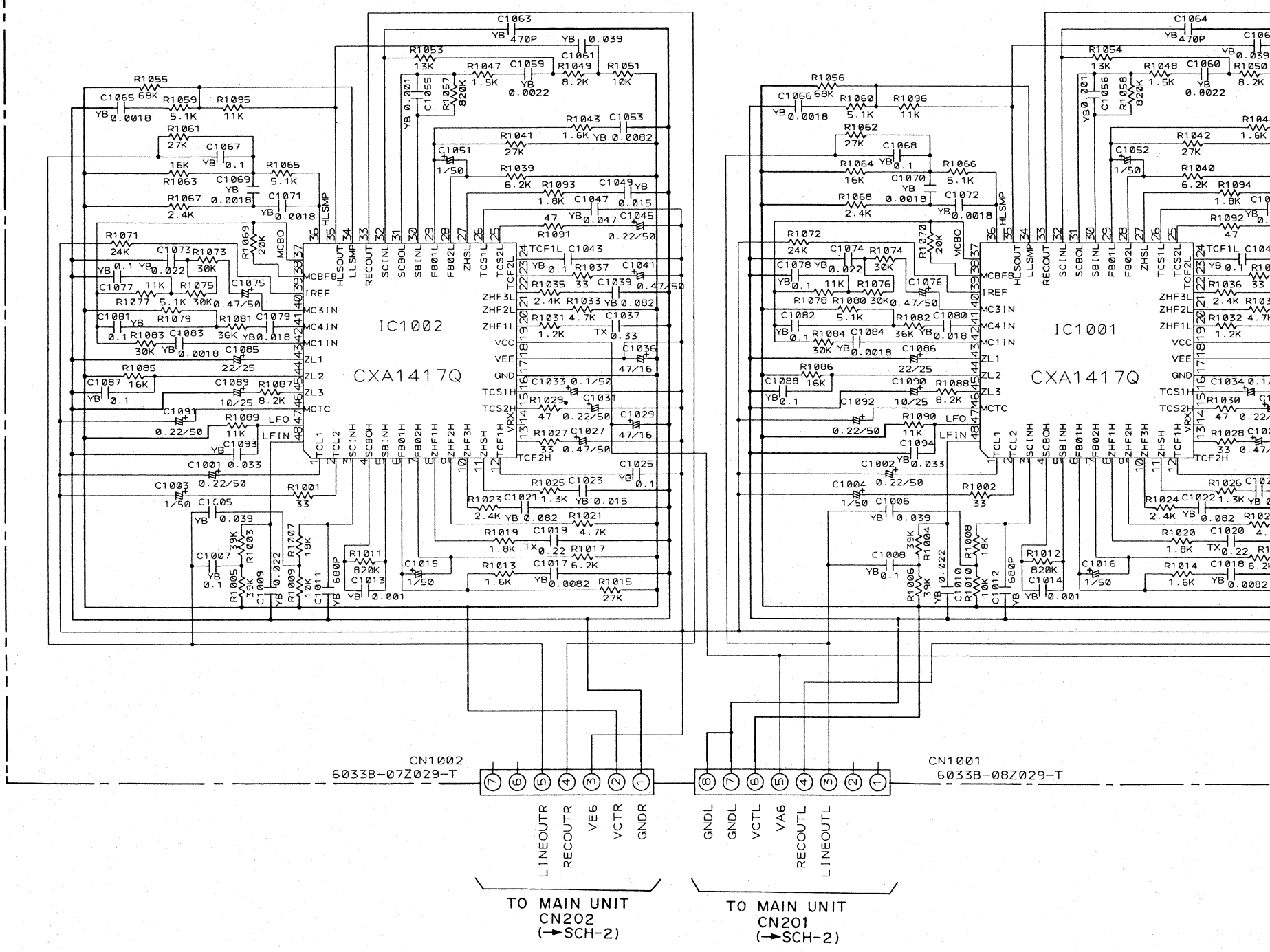
NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⊐ or ← V :
   DC voltage (V) in STOP mode unless otherwise noted.
   ⇦ mA or ← mA :
   DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Un
   SUB UNIT
   S1501 : FAST F
   S1502 : FAST R
   S1503 : REVERS
   S1504 : FORWAI
   S1505 : RECORD
   S1506 : STOP ■
   S1507 : RECORD
   S1508 : PAUSE
   S1509 : FAST F
   S1510 : FAST R
   S1511 : REVERS
   S1512 : FORWAI
   S1513 : RECORD
   S1514 : STOP ■
   S1515 : RECORD
   S1516 : PAUSE
   S1517 : PARALL
   S1518 : SYNCHF
   S1519 : SYNCHF
   S1520 : FLEX
   S1521 : DECK II
   S1522 : DECK I
   S1523 : DECK I
   S1524 : DECK II
   S1525 : CD • DE
   S1526 : DECK I
   S1527 : DECK II
   S1528 : POWER
   S1529 : DOLBY
   S1530 : REVERS
   S1531 : DOLBY

2.3 SCHEMATIC DIAGRAMS

1. DOLBY S UNIT

DOLBY S UNIT (RWX1101)



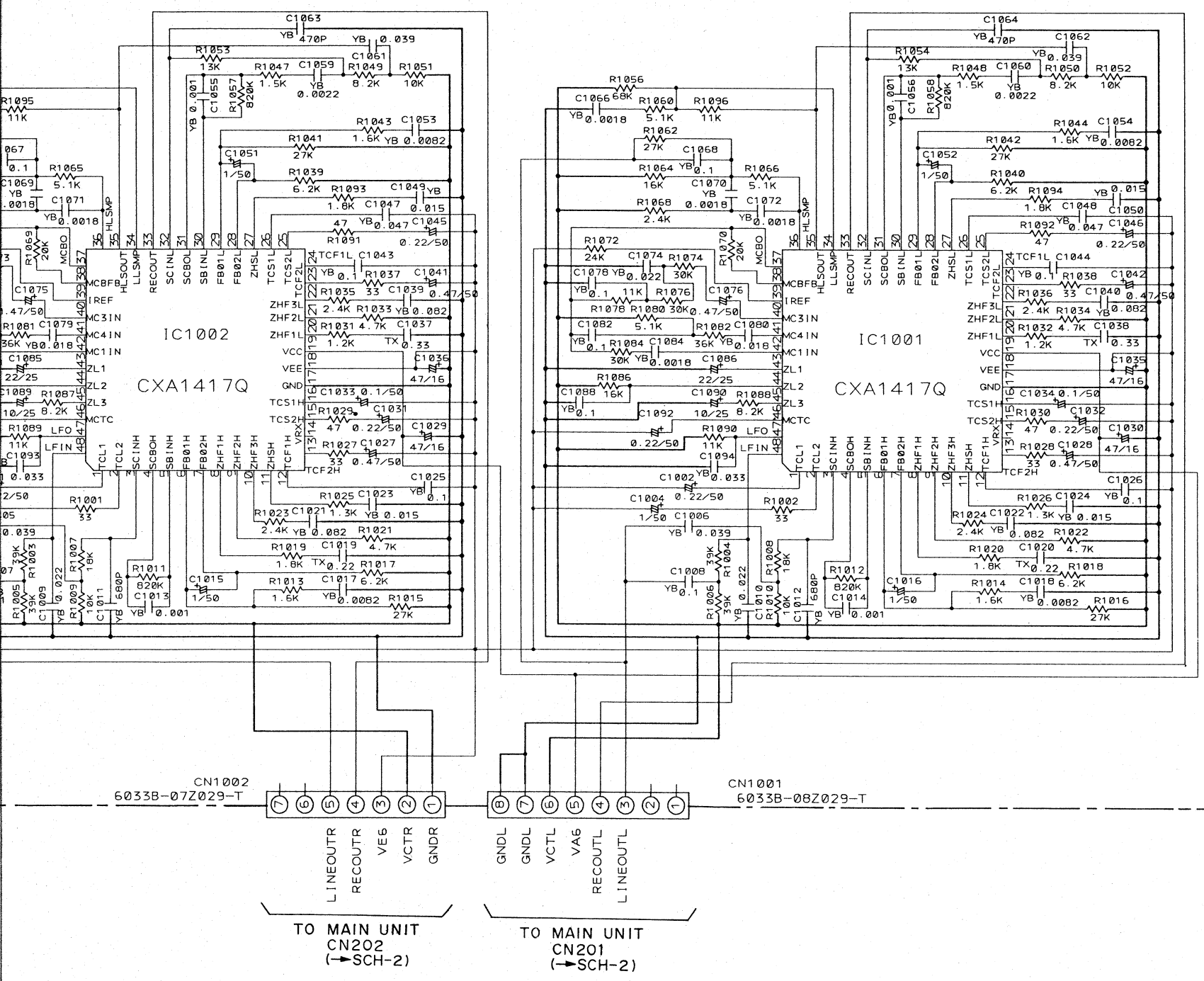
SCH—1 DOLBY S UNIT

NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⎓ or ← V :
   DC voltage (V) in STOP mode unless otherwise noted.
   ⇦ mA or ← mA :
   DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):
   SUB UNIT
   S1501 : FAST FORWARD/MUSIC SEARCH ▶▶/MS
   S1502 : FAST REVERSE/MUSIC SEARCH ◀◀/MS
   S1503 : REVERSE PLAYBACK ◀
   S1504 : FORWARD PLAYBACK ▶
   S1505 : RECORDING MUTE O
   S1506 : STOP ■
   S1507 : RECORDING ●
   S1508 : PAUSE ▮▮
   — DECK I
   S1509 : FAST FORWARD/MUSIC SEARCH ▶▶/MS
   S1510 : FAST REVERSE/MUSIC SEARCH ◀◀/MS
   S1511 : REVERSE PLAYBACK ◀
   S1512 : FORWARD PLAYBACK ▶
   S1513 : RECORDING MUTE O
   S1514 : STOP ■
   S1515 : RECORDING ●
   S1516 : PAUSE ▮▮
   — DECK II
   S1517 : PARALLEL RECORDING (PARALLEL REC)
   S1518 : SYNCHRO COPY (COPY I▶II) NORMAL
   S1519 : SYNCHRO COPY (COPY I▶II) HIGH
   S1520 : FLEX
   S1521 : DECK II COUNTER MODE (TIME/COUNT)
   S1522 : DECK I COUNTER RESET (RESET)
   S1523 : DECK I COUNTER MODE (TIME/COUNT)
   S1524 : DECK II COUNTER RESET (RESET)
   S1525 : CD • DECK SYNCHRO (CD SYNC)
   S1526 : DECK I AUTO BLE
   S1527 : DECK II AUTO BLE
   S1528 : POWER STANDBY/ON
   S1529 : DOLBY NR (B/C/S)
   S1530 : REVERSE MODE (REV MODE) ⇄ ⇉ ⇆
   S1531 : DOLBY NR ON/OFF

SCH-1

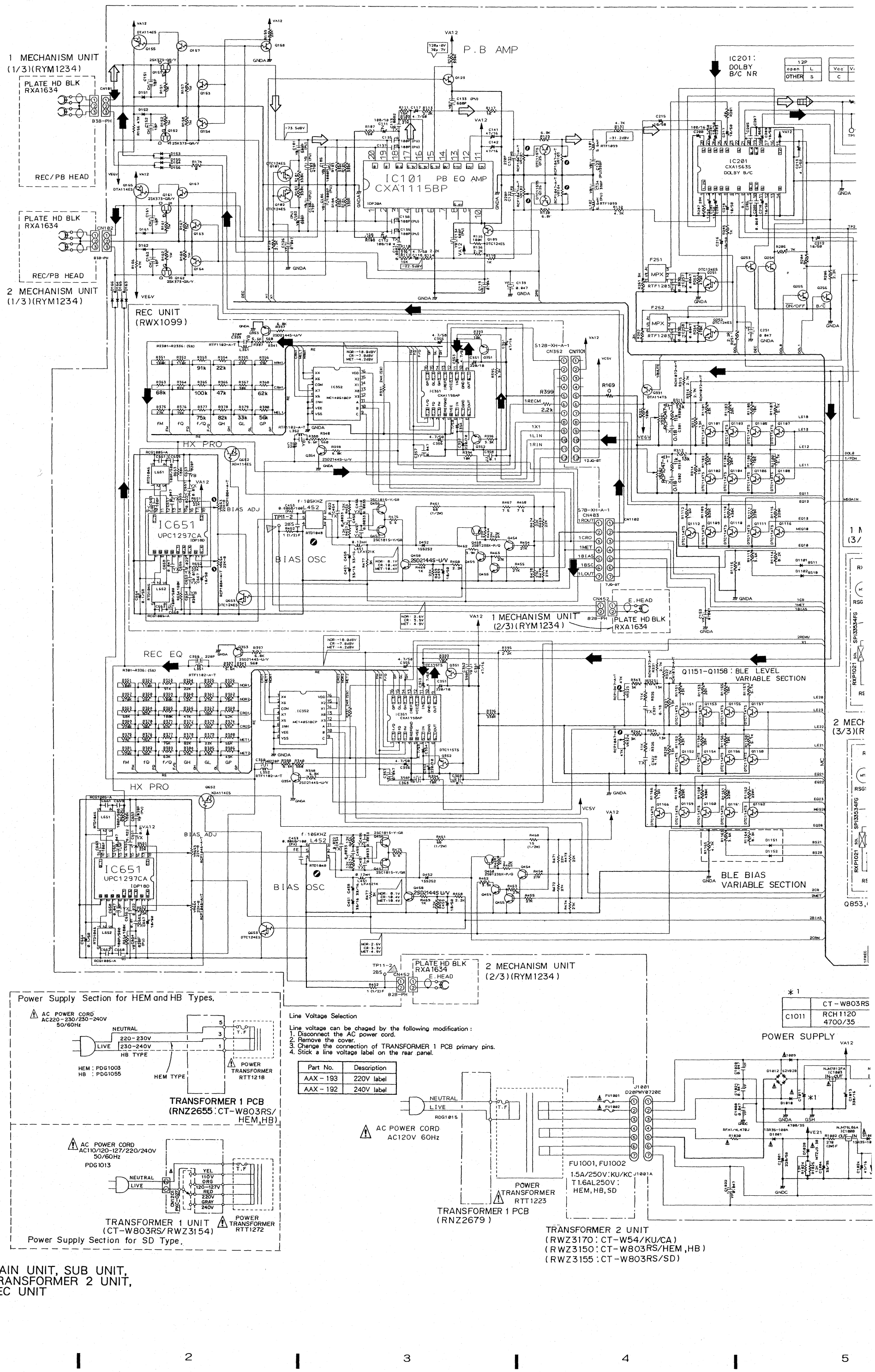
WX1101)



DOLBY S UNIT

SCH—1

2. MAIN, SUB, TRANSFORMER 2 AND REC UNIT



SCH—2 MAIN UNIT, SUB UNIT, TRANSFORMER 2 UNIT, REC UNIT

AMP

IC201: DOLBY B/C NR

12P	
open	L
OTHER	S

13P		
Vcc	Vcc/2	L
C	B	OFF BLE ON

IC201 CXA1563S DOLBY B/C

TO DOLBY S UNIT CN1001 (→SCH-1)

TO DOLBY S UNIT CN1002 (→SCH-1)

SIGNAL ROUTE
⇨ : PLAYBACK SIGNAL
➡ : RECORDING SIGNAL
⇨ : RECORDING MONITOR S

INIPUT BUFFER

IC701 (1/2) XRA15218

IC701 (2/2) XRA15218

IC2001 (2/2) XRA15218

XRA15218 IC2001 (1/2)

H. PHONE AMP

IC1601 (1/2) XRA15218N

IC1601 (2/2) XRA15218N

BLE PILOT SIGNAL FILTER

400Hz LEVEL ADJ.

3kHz LEVEL ADJ.

10kHz LEVEL ADJ.

400Hz L.P.F

3kHz Buffer AMP

METER AMP

IC554 (1/2) XRA15218

IC554 (2/2) XRA15218

IC1701 MC14050BCP

SIGNAL LEVEL DET

1 MECHANISM UNIT (3/3)(RYM1234)

Q803, Q804: MOTOR DRIVE

Q801, Q802: MOTOR SPEED CONTROL

Q807: SENSING

IC501: SYSTEM CONTROL

IC501: PD4507A

IC502: EXPANDER IC

LC7570

2 MECHANISM UNIT (3/3)(RYM1234)

Q805, Q806: SOLENOID ON/OFF DRIVE

Q851, Q852: MOTOR SPEED CONTROL

Q853, Q854: MOTOR DRIVE

Q855, Q856: SOLENOID ON/OFF DRIVE

Q857: SENSING

Q1151–Q1158: BLE LEVEL VARIABLE SECTION

BLE BIAS VARIABLE SECTION

*1	CT-W803RS	CT-W54
C1011	RCH1120 4700/35	RCH1116 4700/25

Q611, Q612: REC DETECTOR (DECK II)

Q507, Q508: REC DETECTOR (DECK I)

POWER SUPPLY

RESET

CD SYNC.

SR

CT-W803RS/SD, CT-W54 ONLY

CT-W803RS/HEM, HB ONLY

SUB UNIT
(RWZ3168: CT-W54/KU/CA)
(RWZ3153: CT-W803RS/SD)
(RWZ3148: CT-W803RS/HEM,HB)

TRANSFORMER 2 UNIT
(RWZ3170: CT-W54/KU/CA)
(RWZ3150: CT-W803RS/HEM,HB)
(RWZ3155: CT-W803RS/SD)

POWER TRANSFORMER RTT1223

FU1001, FU1002 1.5A/250V: KU/KC T1.6AL250V: HEM, HB, SD

NOTE: If th diagr

ISS25

2SA13

2SC33

DTA11

SCH-2

SIGNAL ROUTE
⇨ : PLAYBACK SIGNAL
➡ : RECORDING SIGNAL
⇨ : RECORDING MONITOR SIGNAL

MAIN UNIT
(RWZ3167 : CT-W54/KU/CA)
(RWZ3152 : CT-W803RS/SD)
(RWZ3147 : CT-W803RS/HEM,HB)

TO DOLBY S UNIT CN1001 (→SCH-1)

TO DOLBY S UNIT CN1002 (→SCH-1)

INIPUT BUFFER

MIC AMP

H.PHONE AMP

BLE PILOT SIGNAL FILTER

400Hz LEVEL ADJ.

3kHz LEVEL ADJ.

10kHz LEVEL ADJ.

400Hz L.P.F

3kHz Buffer AMP

METER AMP

SIGNAL LEVEL DETECT

MC14050BCP IC1701

IC501 : SYSTEM CONTROL

IC502 : EXPANDER IC

Q803, Q804 : MOTOR DRIVE

Q801, Q802 : MOTOR SPEED CONTROL

Q807 : SENSING

Q805, Q806 : SOLENOID ON/OFF DRIVE

Q851, Q852 : MOTOR SPEED CONTROL

Q855, Q856 : SOLENOID ON/OFF DRIVE

Q857 : SENSING

Q611, Q612 : REC DETECTOR (DECK II)

Q507, Q508 : REC DETECTOR (DECK I)

CT-W54
RCH1116
4700/25

RESET

CD SYNC.

SR

CT-W803RS/SD, CT-W54 ONLY

CT-W803RS/HEM, HB ONLY

CT-W803RS HEM, HB	CN1503	52045-3345
	CN1501	9604S-33F
OTHER	CN1503	52045-3145
	CN1501	9604S-31F

SUB UNIT
(RWZ3168 : CT-W54/KU/CA)
(RWZ3153 : CT-W803RS/SD)
(RWZ3148 : CT-W803RS/HEM,HB)

NOTE : If the parts are not identified in the diagram the followings are used.

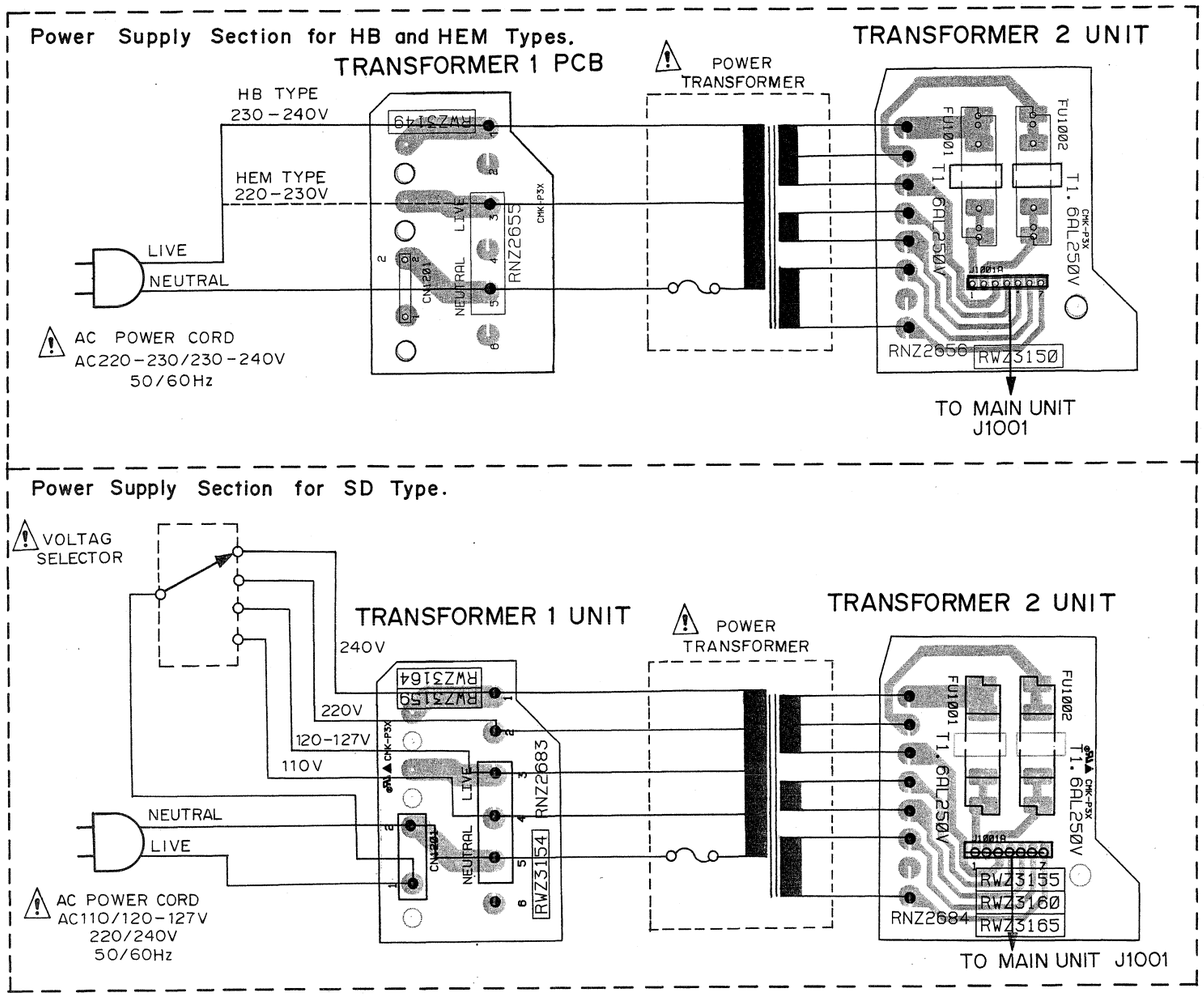
ISS254			
2SA1309A(R/S)		DTC114TS	
2SC3311A(R/S)		XDA114ES	
DTA114TS		XDC124ES	

MAIN UNIT, SUB UNIT, TRANSFORMER 2 UNIT, REC UNIT

SCH-2

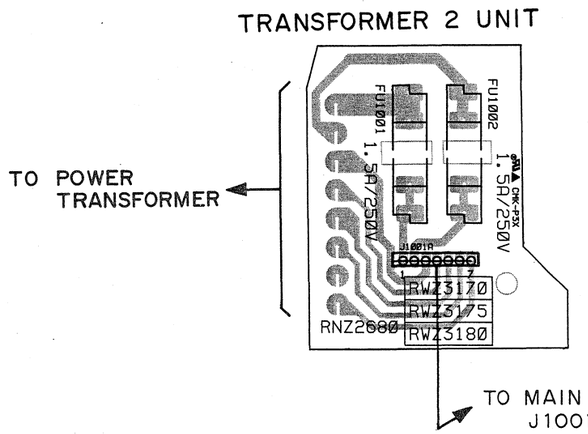
2.4 PCB CONNECTION DIAGRAM

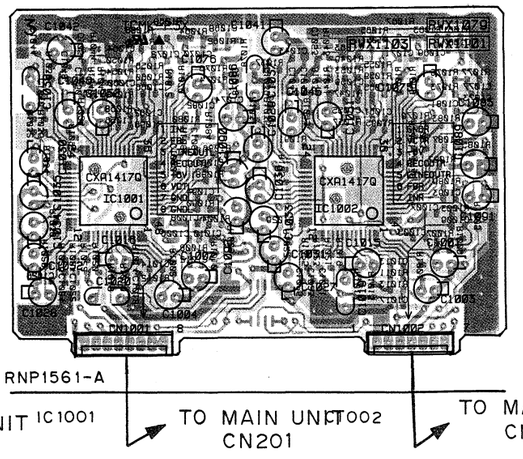
• **This diagram is viewed from the mounted parts side.**

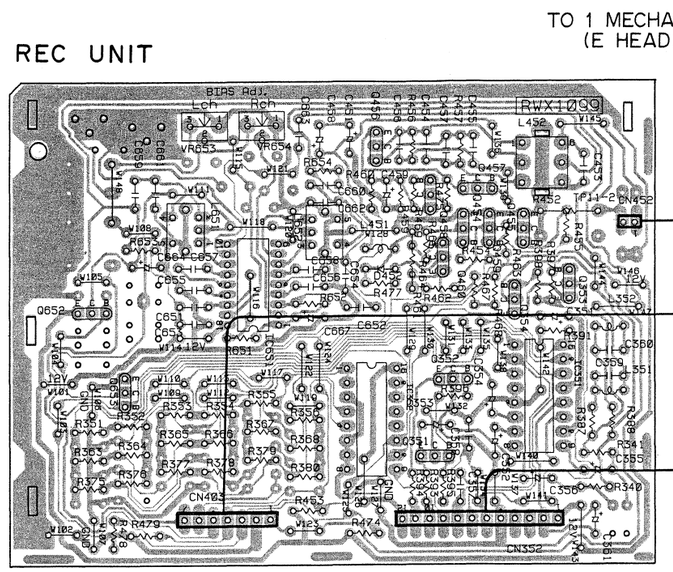


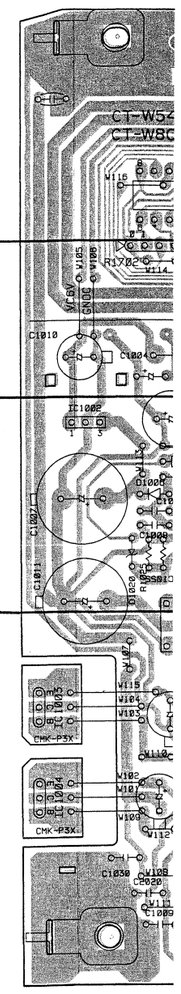
• **This diagram is viewed from the pink colored foil side.**

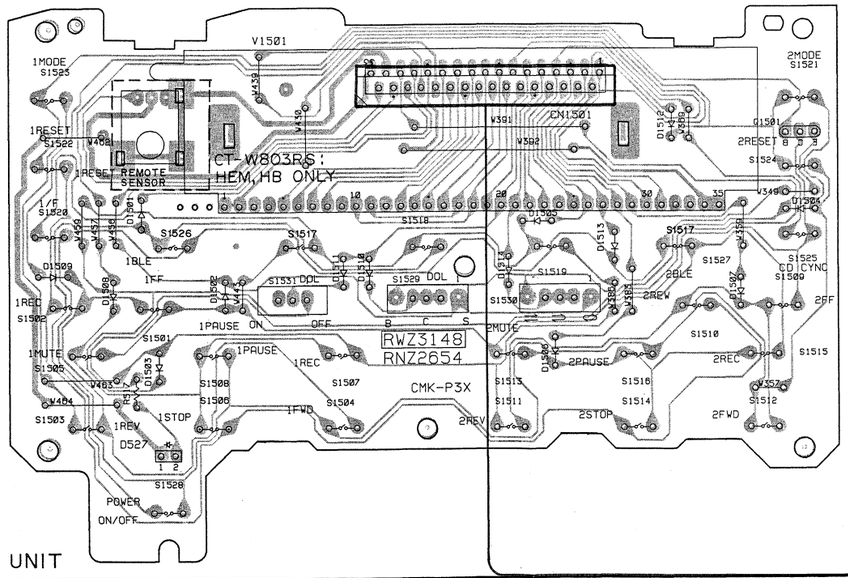
• **This PCB is double sided.**











6 7 8 9 10 11

NISM UNIT(3/3)

CT-W54/KU/CA, CT-W803RS/SD ONLY

MAIN UNIT

TO 2 MECHANISM UNIT(1/3) (REC/PB HEAD)

TO 1 MECHANISM UNIT(1/3) (REC/PB HEAD)

TO DOLBY S UNIT CN1002

TO DOLBY S UNIT CN1001

CT-W54/KU/CA, CT-W803RS/SD ONLY

ER 2 UNIT

TO 1 MECHANISM UNIT (3/3)

TO 2 MECHANISM UNIT (3/3)

TO 2 MECHANISM UNIT (2/3)(E. HEAD)

RNP1569-B

RNP1569B

RNZ2653 RWZ3147

Q1501

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504	Q504 Q504	Transistor
D203	D203	Diode
C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ⓒ or ⊐ shows cathode side.
5. The capacitor terminal marked with ⓒ or ⊏ shows negative terminal.

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
	91	Resistor array
		3- terminal regulator

VR101 VR102 VR103 VR104 VR551 VR552 VR553 VR301 VR302 VR323 VR324 VR851 VR653 VR802 VR852 VR654

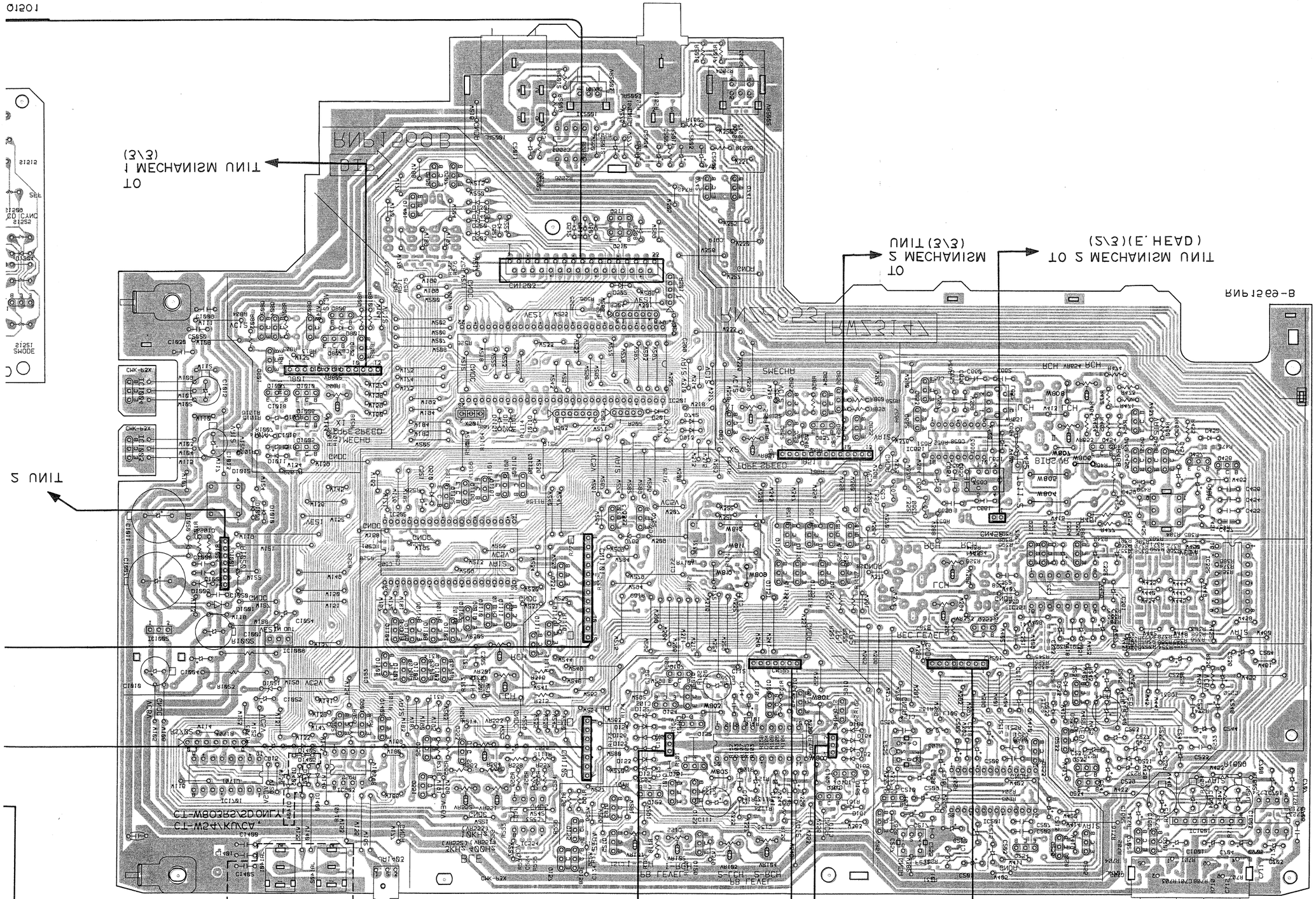
Q157 Q256 Q702
Q125 Q126 Q254
Q158
Q155 Q255 Q701
Q251
Q252
Q123 Q153 Q234
Q165 Q161 Q235
Q153 Q131 IC701
Q101 Q253 IC1601
Q551 IC554 IC201
IC1701
IC903 IC101
Q552 Q553 Q233
Q152 Q901 Q14
Q902
Q154 IC531
Q162 Q1107
Q102 Q109 Q164
Q1101 Q1105 Q1112
Q167 Q1103 Q231
Q1104 Q1108
Q1106 Q1102
IC1002 Q1109
IC1008 Q1110 Q353
Q1111
Q331 Q1151 Q1155
Q1153 Q1157
IC351 IC352
IC502 Q351 Q352
Q1154 Q354
Q1158 Q1156
Q1152
Q333
Q1162
Q1166 Q1160 Q457
Q1161 Q1159 Q459
Q1005 Q454 Q455
IC1003 Q460 IC651
Q1006 Q458
IC1004 Q851 Q456
Q1007
Q1010 Q852 Q857
Q801 Q853 Q854
IC501 Q855 Q652
Q802 Q856 Q653
Q804 Q807
Q806 Q803
Q805

Q1401 Q512 Q742
Q508 Q511 Q741
Q507

IC2001

VR2002

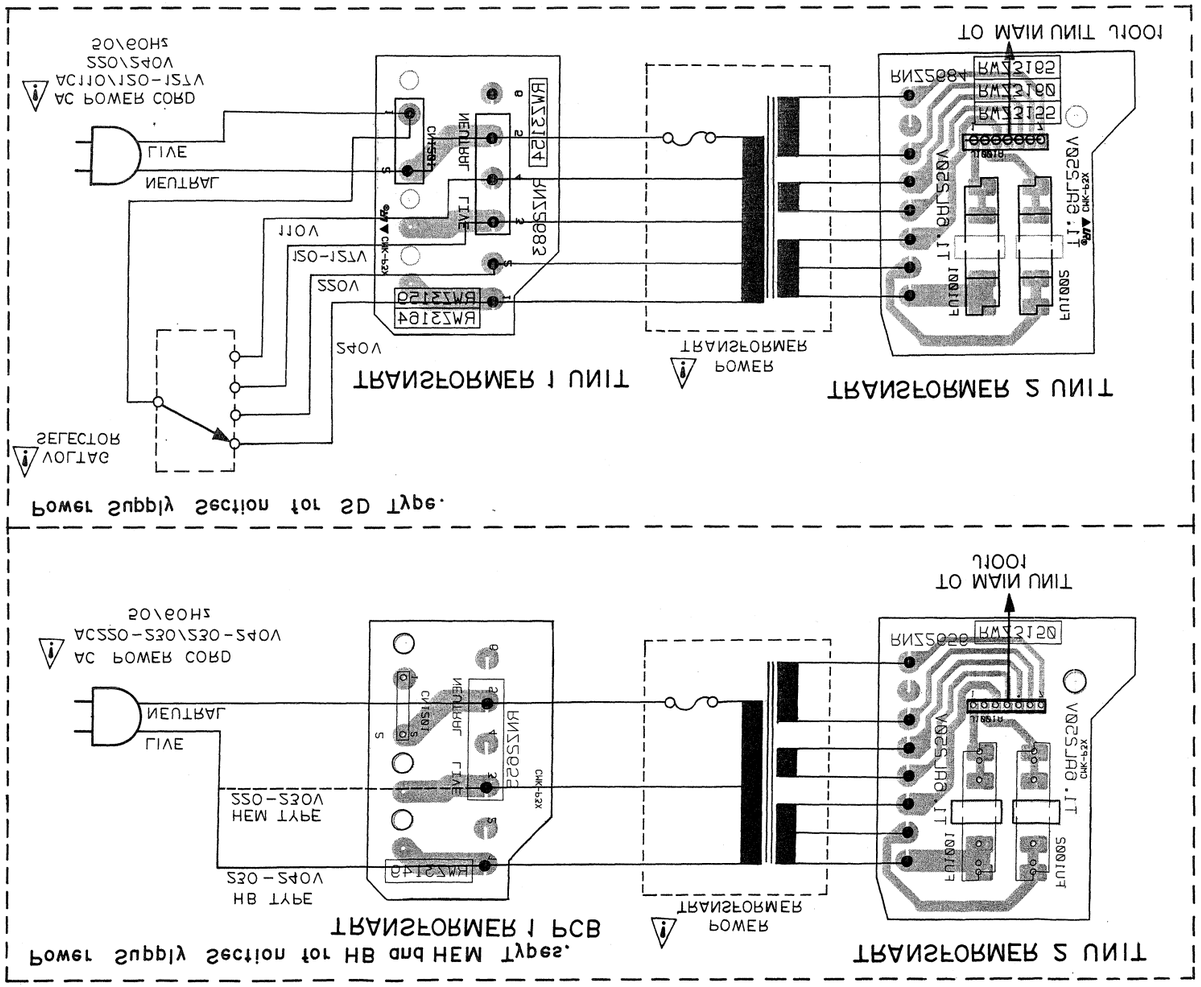
VR2003



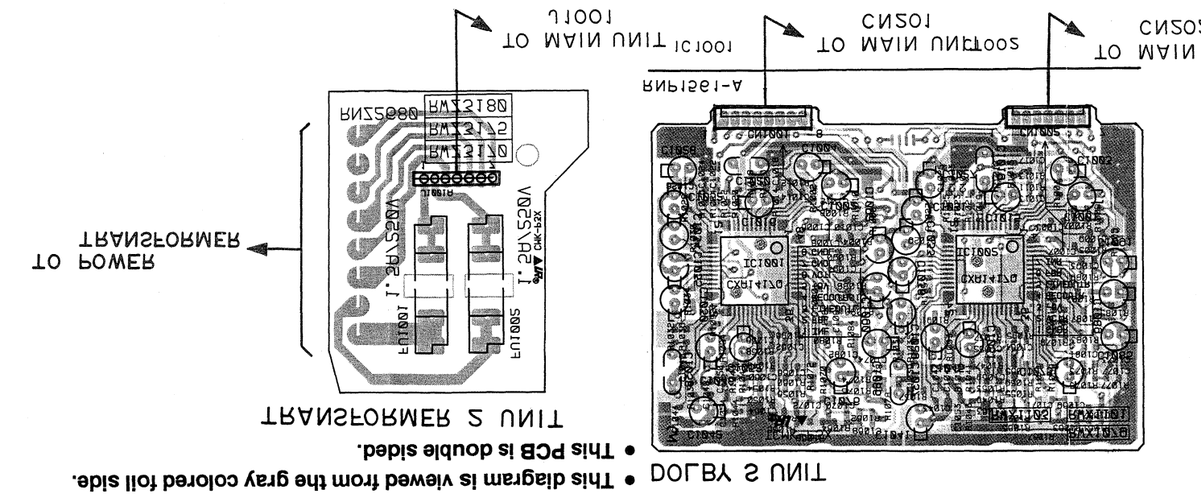
CT-W5R4, CT-W804RS

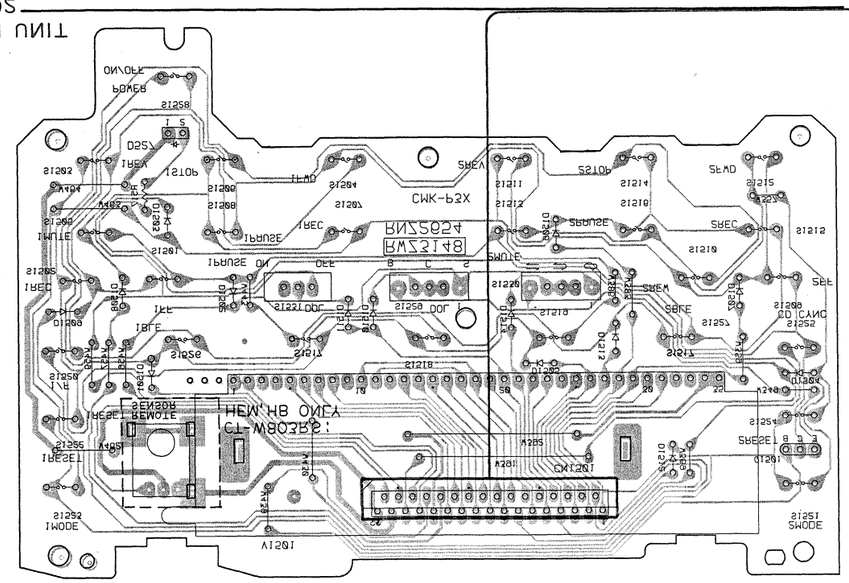
5.4 PCB CONNECTION DIAGRAM

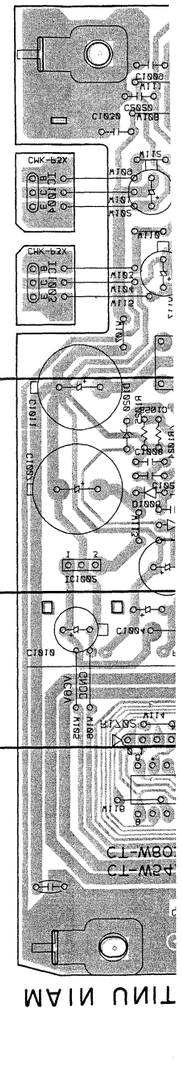
- This diagram is viewed from the foil side.



- This diagram is viewed from the gray colored foil side.
- This PCB is double sided.





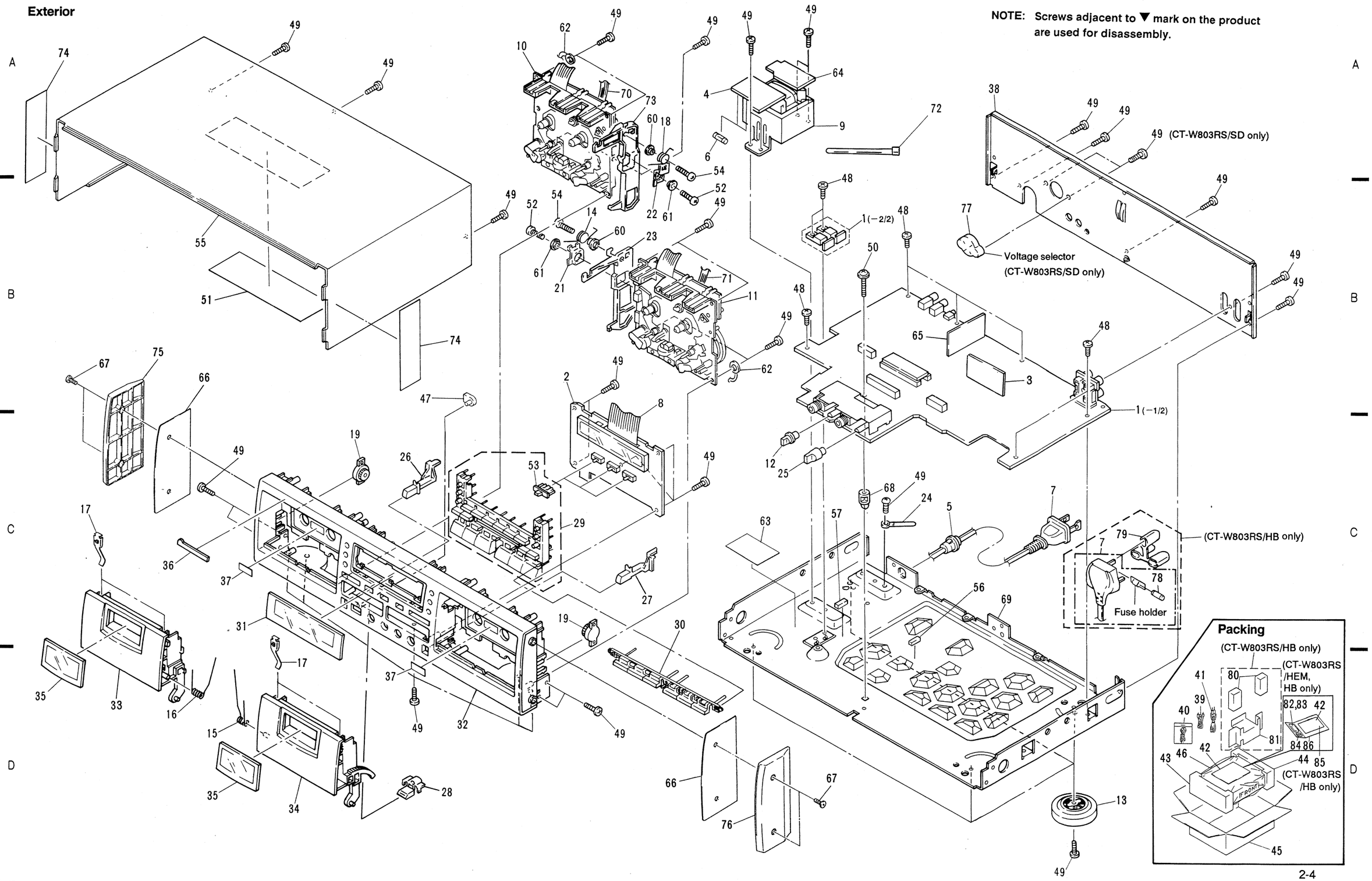


2.1 EXPLODED VIEWS AND PACKING

1. EXTERIOR AND PACKING

Exterior

NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.



2. 1 AND 2 MECHANISM UNIT